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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,023	03/16/2004	Ba-Zhong Shen	BP3089CIP	2630
51472 7590 05/21/2007 GARLICK HARRISON & MARKISON P.O. BOX 160727 AUSTIN, TX 78716-0727			EXAMINER CHUNG, PHUNG M	
			ART UNIT 2117	PAPER NUMBER
			MAIL DATE 05/21/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/802,023	SHEN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Phung My Chung	2117	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____                                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/3/04; 7/20/05; 1/22/07</u>                                  | 6) <input type="checkbox"/> Other: ____                           |

**DETAILED ACTION*****Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 8 –11 and 15 are provisionally rejected on the ground of obviousness-type double patenting as being unpatentable over claims 12 and 20-23 of copending Application No. 10/802,011. Although the conflicting claims are not identical, they are not patentably distinct from each other because all the limitation of the rejected claims are claimed in at least one of the claims 12 and 20-23 of the application's copending application, and there is no reason why the rejected claims could not have been presented in the copending application 10/802,011.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

***Claims Comparison Table***

	<b>10/802,023</b>	<b>10/802,011</b>
Claims:	8	12
	9	20
	10	21
	11	22
	15	23

3. Claims 1-30 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-30 of U.S. Patent No. 7,159,170.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims 1-30 are narrower in scope than the patent claims 1-30, for example, the instant application using a decoder to perform symbol decoding of an LDPC-BICM (Low Density Parity Check-bit Interleaved Coded Modulation) signal which different from the patent claim is that the decoder is operable to perform decoding of an LDPC (Low Density Parity Check) coded modulation signal and the instant claim uses a first symbol ...mapped according to a corresponding Gray code mapping and the second symbol...mapped according to a non-Gray code mapping which is different from the patent claim, using a first symbol...mapped according to a first mapping and a second symbol...mapped corresponding to a second mapping. Therefore, the instant claims 1-30 are an obvious variation of the patent defined in the patent claims 1-30.

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The following table shows the claims in 10/802,023 that are rejected by corresponding claims in patent 7,159,170.

***Claims Comparison Table***

	<b>10/802,023</b>	<b>7,159,170</b>
Claims	1	1
	2	2
	3	3
	4	4
	5	5
	6	6
	7	7
	8	8
	9	9
	10	10
	11	11
	12	12
	13	13
	14	14
	15	15
	16	16
	17	17
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19	19
20	20
21	21
22	22
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24	24
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27	27
28	28
29	29
30	30

***Claim Rejections - 35 USC § 112 First Paragraph***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 8 to 15 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The components that perform the decoding function critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See/n re Mayhew, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). The disclosure

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describes low density parity check decoding process with respect to figures (19 to 22) wherein the decoder includes edge messages, a bit node calculator, and a check node calculator for performing decoding of a low density parity check (LDPC) code.

***Claim Rejections - 35 USC § 112 second***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: the edge messages, the bit node calculator and the check node calculator necessary for the decoder to perform its decoding function as defined in the specification.

Claims 9 to 15 are also rejected due to their dependency on a rejected base claim.

8. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Claim 8, lines 1-3, "A decoder that is operable to perform symbol decoding of an LDPC-BICM (Low Density Parity Check-bit Interleaved Coded Modulation) signal that includes at least one symbol that is mapped using a non-Gray code mapping" recites only preamble of the claim, there isn't any element or means that is recited in the body of the claim. Appropriate correction is required.

***Claim Rejections***

9. Claims 1-15 are objected to because of the following minor informality, for example,

As per claim 1, line 1, "operable" a positive term should be used.

As per claim 8, line 1, "operable" a positive term should be used.

As per claims 2-7 and 9-15, these claims are also objected to because they dependent upon the rejected base claims.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phung My Chung whose telephone number is 571-272-3818. The examiner can normally be reached on Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacques Louis-jacques can be reached on 571-272-6962. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'Phung My Chung', with a long horizontal flourish extending to the right.

Phung My Chung  
Primary Patent Examiner  
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